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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/698,314	10/27/2000	David Carrel	4906.P012	6295
8791	7590	11/03/2004	EXAMINER	
BLAKELY SOKOLOFF TAYLOR & ZAFMAN 12400 WILSHIRE BOULEVARD SEVENTH FLOOR LOS ANGELES, CA 90025-1030			HAN, CLEMENCE S	
			ART UNIT	PAPER NUMBER
			2665	

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/698,314		CARREL, DAVID	
	Examiner		Art Unit	
	Clemence Han		2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5-19 and 23-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 5-19 and 23-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/6/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. An initialed and dated copy of Applicant's IDS form 1449, received on July 6, 2004, is attached to the instant Office action.

Response to Amendment

2. Responsive to amendment received on July 6, 2004, amended claim 1, 15 and 19 are entered and canceled claim 2-4 and 20-22 are canceled as requested.

Claim Rejections - 35 USC § 102

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claim 1, 5-14, 19 and 23-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Voit et al. (US Patent 6,424,657).

Regarding claim 1, Voit teaches A method comprising: receiving a number of Internet Protocol (IP) packets on a real circuit and a number of virtual circuits (Column 12 Line 56 – Column 13 Line 4), wherein the number of virtual circuits are within the real circuit such that the number of Internet Protocol (IP) packets on the real circuit have an IP over Ethernet encapsulation (Column 23 Line 4-6) and the number of Internet Protocol (IP) packets on the number of virtual circuits have a Point-to-Point over Ethernet encapsulation (Column 23 Line 10-14);

deencapsulating the number of Internet Protocol (IP) packets having the IP over Ethernet encapsulation (See Figure 2); deencapsulating the number of Internet Protocol (IP) packets having the Point-to-Point over Ethernet encapsulation (See Figure 2); and forwarding the number of Internet Protocol (IP) packets having the IP over Ethernet encapsulation and the Point-to-Point over Ethernet encapsulation based on an address stored in the number of Internet Protocol (IP) packets (Column 15 Line 50-65).

Regarding claim 5, Voit teaches a method comprising: receiving a number of Internet Protocol (IP) packets over Ethernet on a real circuit (Column 23 Line 4-6), each IP packet over Ethernet having an Ethernet header and an IP address (See Figure 2); removing the Ethernet header from the number of IP packets (See Figure 2); receiving a number of IP packets within a Point-to-Point Protocol (PPP) over Ethernet on at least one virtual circuit (Column 23 Line 10-14), wherein each of the number of IP packets within the PPP over Ethernet includes a PPP header, a PPP over Ethernet (PPPoE) header, an Ethernet header and an IP address (See Figure 2), wherein the at least one virtual circuit runs within the real circuit; removing the PPP header and the PPPoE header from the number of IP packets within the PPP over Ethernet (See Figure 2); removing the Ethernet header from the number of IP packets within the PPP over Ethernet (See Figure 2); and

forwarding the number of IP packets over Ethernet and the number of IP packets within PPP over Ethernet based on the IP address (Column 15 Line 50-65).

Regarding claim 6, Voit teaches the number of IP packets over Ethernet and the number of IP packets within the PPP over Ethernet encapsulated in an Asynchronous Transfer Mode (ATM) protocol layer (Column 21 Line 51-55).

Regarding claim 7, Voit teaches removing the ATM protocol layer from the number of IP packets over Ethernet and the number of IP packets within the PPP over Ethernet (Column 20 Line 3-5).

Regarding claim 8, Voit teaches calculating the number of IP packets within the PPP over Ethernet that are being received from the at least one virtual circuit (Column 17 Line 9-11).

Regarding claim 9, Voit teaches performing rate limiting on the at least one virtual circuit based on the number of calculated IP packets within the PPP over Ethernet (Column 17 Line 62 – Column 18 Line 2).

Regarding claim 10, Voit teaches a method comprising: receiving a number of different data packets over Ethernet on both a real circuit and a number of virtual circuits running within the real circuit (Column 12 Line 56 – Column 13 Line 4); recursively performing the following for each of the number of different data packets: upon determining that a received data packet is an Internet Protocol

(IP) packet over Ethernet on the real circuit (Column 23 Line 4-6), removing an Ethernet header from the received data packet (See Figure 2) and forwarding the IP packet based on an IP address stored in the IP packet (Column 15 Line 50-65); and upon determining that a received data packet is an IP packet within a Point-to-Point Protocol (PPP) over Ethernet on one of the number of virtual circuits (Column 23 Line 10-14), removing an Ethernet header, a PPP header and a PPP over Ethernet (PPPoE) header from the data packet (See Figure 2) and forwarding the IP packet based on an IP address stored in the IP packet (Column 15 Line 50-65).

Regarding claim 11, Voit teaches the number of IP packets over Ethernet and the number of IP packets within the PPP over Ethernet encapsulated in an Asynchronous Transfer Mode (ATM) protocol layer (Column 21 Line 51-55).

Regarding claim 12, Voit teaches removing the ATM protocol layer from the number of IP packets over Ethernet and the number of IP packets within the PPP over Ethernet (Column 20 Line 3-5).

Regarding claim 13, Voit teaches calculating the number of IP packets within the PPP over Ethernet that are being received from the at least one virtual circuit (Column 17 Line 9-11).

Regarding claim 14, Voit teaches performing rate limiting on the at least one virtual circuit based on the number of calculated IP packets within the PPP over Ethernet (Column 17 Line 62 – Column 18 Line 2).

Regarding claim 19, Voit teaches a machine-readable medium that provides instructions which, when executed by a machine, cause said machine to perform operations comprising: receiving a number of Internet Protocol (IP) packets on a real circuit and a number of virtual circuits (Column 12 Line 56 – Column 13 Line 4), wherein the number of virtual circuits are within the real circuit such that the number of Internet Protocol (IP) packets on the real circuit having an IP over Ethernet encapsulation (Column 23 Line 4-6) and the number of Internet Protocol (IP) packets on the number of virtual circuits having a Point-to-Point over Ethernet encapsulation (Column 23 Line 10-14); deencapsulating the number of Internet Protocol (IP) packets having the IP over Ethernet encapsulation (See Figure 2); deencapsulating the number of Internet Protocol (IP) packets having the Point-to-Point over Ethernet encapsulation (See Figure 2); and forwarding the number of Internet Protocol (IP) packets having the IP over Ethernet encapsulation and the Point-to-Point over Ethernet encapsulation based on an address stored in the number of data packets (Column 15 Line 50-65).

Regarding claim 23, Voit teaches a machine-readable medium that provides instructions which, when executed by a machine, cause said machine to perform operations comprising: receiving a number of Internet Protocol (IP) packets over Ethernet on a real circuit (Column 23 Line 4-6), each IP packet over Ethernet having an Ethernet header and an IP address (See Figure 2); removing the Ethernet header from the number of IP packets (See Figure 2); receiving a number IP packets within a Point-to-Point Protocol (PPP) over Ethernet on at least one virtual circuit (Column 23 Line 10-14), wherein each of the number of IP packets within the PPP over Ethernet includes a PPP header, a PPP over Ethernet (PPPoE) header, an Ethernet header and an IP address (See Figure 2), wherein the at least one virtual circuit runs within the real circuit; removing the PPP header and the PPPoE header from the number of IP packets within the PPP over Ethernet (See Figure 2); removing the Ethernet header from the number of IP packets within the PPP over Ethernet (See Figure 2); and forwarding the number of IP packets over Ethernet and the number of IP packets within PPP over Ethernet based on the IP address (Column 15 Line 50-65).

Regarding claim 24, Voit teaches the number of IP packets over Ethernet and the number of IP packets within the PPP over Ethernet encapsulated in an Asynchronous Transfer Mode (ATM) protocol layer (Column 21 Line 51-55).

Regarding claim 25, Voit teaches removing the ATM protocol layer from the number of IP packets over Ethernet and the number of IP packets within the PPP over Ethernet (Column 20 Line 3-5).

Regarding claim 26, Voit teaches calculating the number of IP packets within the PPP over Ethernet that are being received from the at least one virtual circuit (Column 17 Line 9-11).

Regarding claim 27, Voit teaches performing rate limiting on the at least one virtual circuit based on the number of calculated IP packets within the PPP over Ethernet (Column 17 Line 62 – Column 18 Line 2).

Regarding claim 28, Voit teaches a machine-readable medium that provides instructions which, when executed by a machine, cause said machine to perform operations comprising: receiving a number of different data packets over Ethernet on both a real circuit and a number of virtual circuits running within the real circuit (Column 12 Line 56 – Column 13 Line 4); recursively performing the following for each of the number of different data packets: upon determining that a received data packet is an Internet Protocol (IP) packet over Ethernet on the real circuit (Column 23 Line 4-6), removing an Ethernet header from the received data packet (See Figure 2) and forwarding the IP packet based on an IP address stored in the IP packet (Column 15 Line 50-65); and upon determining that a received data packet

is an IP packet within a Point-to-Point Protocol (PPP) over Ethernet on one of the number of virtual circuits (Column 23 Line 10-14), removing an Ethernet header, a PPP header and a PPP over Ethernet (PPPoE) header from the data packet (See Figure 2) and forwarding the IP packet based on an IP address stored in the IP packet (Column 15 Line 50-65).

Regarding claim 29, Voit teaches the number of IP packets over Ethernet and the number of IP packets within the PPP over Ethernet encapsulated in an Asynchronous Transfer Mode (ATM) protocol layer (Column 21 Line 51-55).

Regarding claim 30, Voit teaches removing the ATM protocol layer from the number of IP packets over Ethernet and the number of IP packets within the PPP over Ethernet (Column 20 Line 3-5).

Regarding claim 31, Voit teaches calculating the number of IP packets within the PPP over Ethernet that are being received from the at least one virtual circuit (Column 17 Line 9-11).

Regarding claim 32, Voit teaches performing rate limiting on the at least one virtual circuit based on the number of calculated IP packets within the PPP over Ethernet (Column 17 Line 62 – Column 18 Line 2).

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claim 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tal et al. (US Patent 6,662,254) in view of Voit et al..

Regarding claim 15, Tal teaches a network element comprising: a number of input/output (I/O) cards 812 coupled to a number of real circuits (Column 7 Line 27-31), the number of I/O cards to receive a number of Internet Protocol (IP) packets over Ethernet on the real circuit (Column 3 Line 22-31) and a forwarding card (the router card in Column 8 Line 42) having an IP address table (Column 8 Line 41-44), the forwarding card to receive the number of IP packets from the number of I/O cards and to forward the IP packets based on the IP address stored in the IP packet and the IP address table (Column 8 Line 41-44). Tal, however, does not teach each of the number of real circuits including at least one virtual circuit, and to receive a number of IP packets within a Point-to-Point Protocol (PPP) over Ethernet on the at least one virtual circuit. Voit teaches each of the number of real circuits including at least one virtual circuit (Column 12 Line 56 – Column 13 Line 4) and to receive a number of IP packets within a Point-to-Point Protocol (PPP) over Ethernet on the at least one virtual circuit (Column 23 Line

10-14). It would have been obvious to one skilled in the art to modify Tal to be used with PPP over Ethernet on the virtual circuit as taught by Voit to use limited IP addresses more efficiently (Column 23 Line 48-64).

Regarding claim 16, Tal teaches a control card 406 having a database of configuration information, the configuration information used to configure the forwarding card and the number of I/O cards (Column 4 Line 55-57).

Regarding claim 17, Tal teaches a network element comprising: a number of input/output (I/O) cards 812 coupled to a number of real circuits (Column 7 Line 27-31), the number of I/O cards to receive a number of Internet Protocol (IP) packets over Ethernet on the real circuit (Column 3 Line 22-31) and a forwarding card (the router card in Column 8 Line 42) having an IP address table (Column 8 Line 41-44), the forwarding card to receive the number of IP packets from the number of I/O cards and to forward the IP packets based on the IP address stored in the IP packet and the IP address table (Column 8 Line 41-44). Tal, however, does not teach each of the number of real circuits including at least one virtual circuit, and to receive a number of IP packets within a Point-to-Point Protocol (PPP) over Ethernet on the at least one virtual circuit. Tal also fails to teach determining the number of IP packets within the PPP over Ethernet that are being received from the at least one virtual circuit. Voit teaches each of the number of

real circuits including at least one virtual circuit (Column 12 Line 56 – Column 13 Line 4) and to receive a number of IP packets within a Point-to-Point Protocol (PPP) over Ethernet on the at least one virtual circuit (Column 23 Line 10-14). Voit also teaches determining the number of IP packets within the PPP over Ethernet that are being received from the at least one virtual circuit (Column 17 Line 9-11). It would have been obvious to one skilled in the art to modify Tal to be used with PPP over Ethernet on the virtual circuit as taught by Voit to use limited IP addresses more efficiently (Column 23 Line 48-64).

Regarding claim 18, Tal teaches a network element comprising: a number of input/output (I/O) cards 812 coupled to a number of real circuits (Column 7 Line 27-31), the number of I/O cards to receive a number of Internet Protocol (IP) packets over Ethernet on the real circuit (Column 3 Line 22-31) and a forwarding card (the router card in Column 8 Line 42) having an IP address table (Column 8 Line 41-44), the forwarding card to receive the number of IP packets from the number of I/O cards and to forward the IP packets based on the IP address stored in the IP packet and the IP address table (Column 8 Line 41-44). Tal, however, does not teach each of the number of real circuits including at least one virtual circuit, and to receive a number of IP packets within a Point-to-Point Protocol (PPP) over Ethernet on the at least one virtual circuit. Tal also fails to teach

performing rate limiting on the at least one virtual circuit based on the number of calculated IP packets within the PPP over Ethernet. Voit teaches each of the number of real circuits including at least one virtual circuit (Column 12 Line 56 – Column 13 Line 4) and to receive a number of IP packets within a Point-to-Point Protocol (PPP) over Ethernet on the at least one virtual circuit (Column 23 Line 10-14). Voit also teaches performing rate limiting on the at least one virtual circuit based on the number of calculated IP packets within the PPP over Ethernet (Column 17 Line 62 – Column 18 Line 2). It would have been obvious to one skilled in the art to modify Tal to be used with PPP over Ethernet on the virtual circuit as taught by Voit to use limited IP addresses more efficiently (Column 23 Line 48-64).

Response to Arguments

7. Applicant's arguments with respect to claim 1, 5-19 and 23-32 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clemence Han whose telephone number is (571) 272-3158. The examiner can normally be reached on Monday-Thursday 7 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. H.

Clemence Han
Examiner
Art Unit 2665

Alpus H. Hsu

ALPUS H. HSU
PRIMARY EXAMINER